

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:) Examiner: Anh T N Vo

Horn et al.)

Serial No.: 10/394,145) Art Unit: 2881

Filed: October 27, 2003)

For: FEATURES IN SUBSTRATES AND)

METHODS OF FORMING)

Attorney Docket No.:
200314366-1

Date of Examiner's Answer:
November 14, 2007

REPLY BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Reply Brief is timely provided two months from the mailing date of the
Examiner's Answer dated November 14, 2007.

CERTIFICATE OF FACSIMILE

I hereby certify that these papers are being transmitted to The United States Patent and Trademark
Office (serial number 571) 273-33100 on January 14, 2008.

Robert D. Day
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PAGE 2/8 * RCVD AT 1/14/2008 11:33:16 AM [Eastern Standard Time] * SVR:USPTO-EFXXRF-6/34 * DNS:2738300 * CSID:12165035401 * DURATION (mm-ss):01-18

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Reply

In response to the Examiner's Answer dated November 14, Appellant respectfully submits the following reply as permitted under 37 CFR §41.41(a)(1). The Examiner's Answer contained no new grounds of rejection and the present reply contains no new amendment, affidavit or other evidence. Thus a formal Brief is not required. The present reply supplements Appellant's Appeal Brief in view of the Examiner's Answer.

I. Claim 6 was rejected under 35 USC 102(e) as being unpatentable over Boyle et al. (Pub. No. US 2002/0170891).

The examiner's answer maintains that the claim language associated with the process is not a limitation and relies on MPEP 2113. However for a 35 U.S.C. §102 reference to anticipate a claim, the reference must teach each and every element of the claim. Section 2131 of the MPEP recites:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). (emphasis added)

MPEP §2143.03 states that all words in claim must be considered:

"All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). (MPEP 2143.03, first paragraph)

The first process and second process recited in claim 6 impart distinctive structural characteristics to the final product. The first process forms a feature, a fluid-handling slot, by removing substrate material with a cross-section of the slot

having an upper terminus having a first profile. The second different process removes additional substrate material from the substrate to form an upper terminus having a second profile different from the first profile and the second process also removes debris created by the first substrate removal process. These are elements of claim 8 and must be taught by the prior art. The rejection does not consider all words of the claim and is improper.

Since the recited manufacturing process steps (first process, second process) impart distinctive structural characteristics to the final product (e.g. the feature/slot, the modified profile of upper terminus, and cleans up debris), the structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art. In fact in claim 8, the structure is not merely implied but explicitly recited. Therefore, the Examiner's reliance on MPEP §2113 to reject the claims is not sufficient to establish a prima facie rejection. As explained, Boyle does not teach or suggest the claimed fluid ejecting device and the recited elements. Boyle does not teach a fluid ejecting device where the upper terminus is formed to have a second profile different from the first profile by a second different process that removes additional substrate material from the substrate and also removes debris created by the first substrate removal process and where the feature comprises a fluid-handling slot as recited in independent claim 8. The recited first and second different profiles at the upper terminus are not taught by Boyle. The claim is not anticipated.

Boyle fails to support a proper anticipation rejection. Therefore, the rejection is improper and should be reversed.

II. Claims 6 and 34-38 were rejected under 35 USC 102(b) as being anticipated by Baughman et al. (US Pat. 5,608,436).

Independent Claim 6

As stated above, for a 35 U.S.C. §102 reference to anticipate a claim, the reference must teach each and every element of the claim. The rejection relies on Figures 4A-6D of Baughman. However, these figures do not teach the first and second different profiles of the upper terminus as recited in claim 6. For example, Figures 4A and 4B show a slot 18 formed partly through a substrate. Thus, there is no upper terminus of the slot at the surface of the substrate and thus no profile at the first surface. Then Figure 4C shows a portion 18a formed, which creates a first profile at the surface, but then no second different profile. Likewise Figures 5B and 5C of Baughman have the same configuration of figure 4 and does not teach claim 6. Figure 6 shows an opposite process where a first profile is created with portion 18a at the substrate surface but that profile does not change.

Therefore, the recited first and second different profiles are not taught by Baughman and the claim is not anticipated. Furthermore, Appellant repeats the previous arguments made in the appeal brief. A prima facie anticipation rejection has not been established and the rejection should be reversed.

Independent Claim 34

For a 35 U.S.C. §102 reference to anticipate a claim, the reference must teach each and every element of the claim. Claim 34 recites a substrate comprising at least a first substrate surface and a second substrate surface, a fluid-handling slot formed by at least two substrate removal processes and extending through the substrate between the first substrate surface and the second substrate surface, where the first substrate removal process comprises using a laser and the second substrate removal process comprises using abrasive particles. Claim 34 further recites a substrate surface processed by at least one of the removal processes prior

to the orifice layer being positioned over the first substrate to reduce an incidence of debris occluding ink flow through individual nozzles. Baughman fails to teach these features and fails to establish a prima facie anticipation rejection. Each and every element is not taught. Thus, the rejection is improper and should be reversed.

Independent Claim 38

Each and every element of the claim must be taught by a reference to anticipate a claim under 35 U.S.C. §102. All words of a claim must be considered (MPEP 2143.03, first paragraph). The rejection does not consider every element of the claim and is improper. Baughman fails to teach a feature being formed with at least a first substrate removal process and a second different substrate removal process, wherein the second different substrate removal process also removes debris created by the first substrate removal process. The two substrate removal processes recited in claim 38 impart distinctive structural characteristics to the final product. Since the recited manufacturing process steps (two substrate removal processes) impart distinctive structural characteristics to the final product (e.g., the second different substrate removal process also removes debris created by the first substrate removal process), pursuant to MPEP §2113, the structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art. Therefore, the Examiner's reliance on MPEP §2113 to reject the claim is not sufficient to establish a prima facie anticipation rejection and the rejection is improper.

III. Whether Claims 8 and 34-38 are unpatentable under 35 U.S.C. §102(e) as being anticipated by Hall et al. (US Pat. 6,902,867)

Independent claim 8

The examiner maintains the rejections based on Hall and relies on Figures 2 and 27 for allegedly teaching the claimed structure. In particular, the rejections rely

on Figure 2 that shows a substrate 32 and via 14 and on figure 27 that shows a substrate wafer 150 and a trench 170. Looking to figure 2, Hall merely shows that the via 14 has the same profile at the surface of the substrate 32. Likewise, figure 27 merely shows that the profiles at either surface of substrate 150 at trench 170 or trench 164 is the same.

Therefore, Hall fails to teach different profiles and fails to anticipate claim 6 that recites "the upper termir us is formed to have a second profile different from the first profile by a second different process." Thus, the structure of Hall is different and fails to establish a prima facie anticipation rejection. Such a profile can have a reduced propensity to crack (see specification page 16, [0051]). Hall fails to teach such a profile.

Additionally, the examiner's answer maintains that the claim language associated with the process is not a limitation and relies on MPEP 2113. However for a 35 U.S.C. §102 reference to anticipate a claim, the reference must teach each and every element of the claim. All words of a claim must be considered (MPEP 2143.03, first paragraph). The rejection is improper and should be reversed.

For Independent claims 34 and 38, Appellant repeats the arguments of the Appeal Brief. Furthermore, each and every element of the claim must be taught by a reference to anticipate a claim under 35 U.S.C. §102. All words of a claim must be considered (MPEP 2143.03, first paragraph). The rejections do not consider every element of the claims and are improper.

Conclusion

Appellant respectfully maintains all previous arguments, which show the deficiencies in the rejections. Accordingly, Appellant respectfully requests that the Board of Appeals overturn all rejections and allow all pending claims.

Respectfully submitted,



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